

WHAT IS CLAIMED IS:

- 1 1. An article of footwear comprising:
2 an upper;
3 an outsole defining a ground engaging surface;
4 a sole disposed between said upper and said outsole, said sole
5 including an energy return system;
6 wherein said energy return system comprises a first rigid plate, a
7 second rigid plate spaced a predetermined distance from said first rigid plate, and
8 at least one separating element disposed therebetween to maintain the spacing
9 between said plates.
- 1 2. The article of footwear of claim 1 wherein said first and second
2 plates comprise a material having a modulus of elasticity of at least approximately
3 32×10^6 lb/in².
- 1 3. The article of footwear of claim 2 wherein said material comprises
2 carbon graphite.
- 1 4. The article of footwear of claim 1 wherein said at least one
2 separating element comprises an elastomeric material.
- 1 5. The article of footwear of claim 1 wherein said at least one
2 separating element comprises two separating elements, a first one of said
3 separating elements being disposed in a toe area of said article of footwear and a
4 second one of said separating elements being disposed in a heel area of said article
5 of footwear.

1 6. The article of footwear of claim 1 wherein said first one of said
2 separating elements is generally arcuate.

1 7. The article of footwear of claim 1 wherein said first and second
2 rigid plates define an energy return system.

1 8. An energy return system for use in a shoe sole, said system
2 comprising:
3 a first rigid plate;
4 a second rigid plate spaced a predetermined distance from said first
5 rigid plate;
6 at least one separating element maintaining the distance between
7 said first and second rigid plates.

1 9. The energy return system of claim 8 wherein said first and second
2 plates comprise a material having a modulus of elasticity of at least approximately
3 32×10^6 lb/in².

1 10. The energy system of claim 9 wherein said material comprises
2 carbon graphite.

1 11. The energy system of claim 10 wherein said first and second plates
2 are formed by a plurality of layers of carbon graphite.

1 12. The energy system of claim 8 wherein each of said first and second
2 rigid plates extends substantially the entire length of a foot.

1 13. The energy system of claim 12 wherein each of said first and
2 second rigid plates is configured to include a rocker bottom.

1 14. The energy system of claim 8 wherein each of said first and second
2 rigid plates extends only a portion of the length of a foot.

1 15. The energy system of claim 14 wherein each of said first and
2 second rigid plates extends from a toe area of the foot to an arch area of the foot.

1 16. The energy system of claim 8 wherein said at least one separating
2 element comprises an elastomeric material.

1 17. The energy system of claim 8 wherein said at least one separating
2 element comprises two separating elements, a first one of said separating elements
3 disposed in a forward end of the energy return system and a second one of said
4 separating elements disposed in a rearward end of the energy return system.

1 18. A shoe sole incorporating the energy return system of claim 8.

1 19. An article of footwear incorporating the shoe sole of claim 16.

1 20. A shoe sole for an article of footwear comprising:
2 an outsole defining a ground engaging surface;
3 an upper rigid plate spaced from the outsole for attachment to an
4 upper;
5 a lower rigid plate disposed between the outsole and the upper rigid
6 plate; and

- 7 at least one separating element disposed between the upper and
- 8 lower rigid plates to maintain the separation thereof.